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10/804,234

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Michael Wiesinger

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EXAMINER

BONANTO, GEORGE P

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/804,234

Applicant(s)

WIESINGER ET AL.

Examiner

George P. Bonanto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claim 14 is objected to because of the following informalities: claim element “the volume causing an increase in pressure” lacks antecedent basis. Appropriate correction is required.

Claim 16 is objected to because of the following informalities: claim element “the fluid” lacks antecedent basis. Appropriate correction is required.

Claim 22 is objected to because of the following informalities: claim element “the pressure of the compressed air biasing the catch volume” lacks antecedent basis. Appropriate correction is required.

Claim 25 is objected to because of the following informalities: claim element “the pressure of the fluid” lacks antecedent basis. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is unclear how the “additional volume of fluid” can be created by the “pressure increase.”

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the phrase, “a supply line . . . can be closed by means of a sealing

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element” means that a supply line may or may not be closed. Since the limitation either may or may not be present, it is unclear what is meant by the limitation.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by

Published U.S. Patent No. 2001/0009161 by Berger.

As to claim 13, Berger discloses guiding a fluid into a pressure regulator upon exceeding a discretionary pressure level (paragraphs 20 and 21 and Fig. 1).

As to claim 14, Berger further discloses conducting a volume of fluid into the pressure regulator and whereby this volume corresponds to the volume causing an increase in pressure (paragraph 37 and Fig. 1).

As to claim 15, Berger further discloses diverting an additional volume of fluid, created by pressure increase, after exceeding the maximum volume that can be moved into the pressure regulator (paragraph 37 and Fig. 1).

As to claim 16, Berger discloses a pressure regulator having a housing (housing 4; Fig. 1 and paragraph 16) which contains an element biased by a changeable force (diaphragm 33 and setting member 26 biased by adjustable presetting force  $F_{sub.2}$ ; paragraph 23 and Fig. 1) whereby said element is coupled to a valve arrangement (head section 53, plunger body 16 and primary control section 15; Fig. 1) that is also arranged in the housing for the fluid to build up

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pressure therein (paragraphs 34 and 35) wherein the pressure regulator contains a catch volume for the fluid (comparison chamber 27; Fig. 1).

As to claim 17, Berger further discloses that the element is a flexible diaphragm (diaphragm 33; Fig 1 and paragraphs 21-24).

As to claim 18, Berger further discloses that the catch volume is biased by an elastic element (paragraphs 21-24).

As to claim 19, Berger further discloses that the elastic element is a compression spring (paragraphs 21 and 22).

As to claim 20, Berger further discloses that the catch volume is biased by compressed air with adjustable pressure (adjustable paragraphs 21 and 23 and fluid force paragraph 24).

As to claim 21, Berger further discloses a safety valve provided downstream from the valve arrangement of the pressure regulator (paragraph 37 and Fig. 1).

As to claim 22, Berger further discloses that the safety valve includes a valve element (paragraph 37 and Fig. 1) which is biased in the closing direction with compressed air having the same pressure as the one in the catch volume (the force  $F_{sub.2}$  works with the force provided by spring 58 to close the venting opening, the force  $F_{sub.2}$  being compressed air in chamber 38 which also biases the diaphragm open, paragraph 37 and 24, also compressed air is disclosed in that the chamber 38 is open to the atmosphere).

As to claim 24, Berger further discloses the pressure regulator according to claim 16, for the continuous measuring of dynamic fuel consumption (A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Since the

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structure of Berger is capable of use for continuous measuring of dynamic fuel consumption, it meets the limitation of claim 24).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25- are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,612,895 to Kuroiwa et al. in view of U.S. Patent No. 6,554,017 to Berger.

As to claim 25, Kuroiwa et al. disclose a device for continuous measuring of dynamic fluid consumption comprising a tank (fuel tank 38; Fig. 1) a continuously-operating flow sensor for the fluid (fuel flow sensor 54; Fig. 1) and a pressure regulator for the pressure of the fluid between the flow sensor and a fluid consumer (fuel valve 42 between sensor 54 and fuel nozzle 30A; Fig. 1). Kuroiwa et al. fail, however, to disclose that the pressure regulator comprises a housing containing a catch volume for the fluid, a valve arrangement and an element biased by a changeable force and coupled to said valve arrangement.

Berger discloses a pressure regulator comprising a housing (housing, col. 3, line 26) containing a catch volume for fluid (comparison chamber, col. 4, lines 10-14) a valve arrangement (control member, col. 3, line 57 to col. 4, line 6) and an element biased by a changeable force and coupled to the valve arrangement (setting member, col. 4, line 6 to col. 5, line 3).

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It would have been obvious to one of ordinary skill in the art to modify the fuel flow sensor system of Kuroiwa et al. by using the pressure regulator of Berger for the pressure regulator in order to ensure one way flow of fuel, and, therefore, accurate measurement of fuel flow, as well as to provide a safety valve for relief of unsafe pressure build-up in the fuel system due to heat expansion.

As to claim 26, Kuroiwa et al. further disclose a conditioning system for the fluid (filter, col. 8, line 59).

As to claim 27, Kuroiwa et al. further disclose a controllable pump for the fluid (fuel pump, col. 8, line 59).

As to claim 29, Kuroiwa et al further disclose a device according to claim 25 for the continuous measuring of dynamic fuel consumption (Abstract).

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,612,895 to Kuroiwa et al. and U.S. Patent No. 6,554,017 to Berger, as applied to claim 25 above, and further in view of U.S. Patent No. 6,041,664 to Häfner.

As to claim 28, Kuroiwa et al. fail to disclose that the flow sensor is a Coriolis sensor.

Häfner discloses a flow sensor that is a Coriolis sensor (Fig. 1 and col. 3, lines 25-40).

It would have been obvious to one of ordinary skill in the art to modify the device of Kuroiwa et al, including the pressure regulator of Berger, by using the Coriolis sensor of Häfner as the flow sensor in order to provide a highly accurate mass flow determination of fuel flow (Häfner; col. 3, lines 8-10).

***Response to Arguments***

Applicant's arguments filed 8 December 2005 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to George P. Bonanto whose telephone number is (571) 272-2182. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPB  
4 January 2006

  
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